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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,904

01/28/2005

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ASA-008

9444

54004

7590

10/29/2008

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EXAMINER

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ART UNIT

PAPER NUMBER

2456

MAIL DATE

DELIVERY MODE

10/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,904	Applicant(s) YOSHIMURA ET AL.	
	Examiner ASHOK B. PATEL	Art Unit 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/07/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-20 are subject to examination.

Response to Arguments

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. Examiner has addressed the arguments pertaining to the "first routing table", "second routing table", "domain name" through the following rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chava et al. (hereinafter Chava) (US 2004/0156495 A1) in view of Eikkula (US 2007/0042779 A1)

Referring to claim 1,

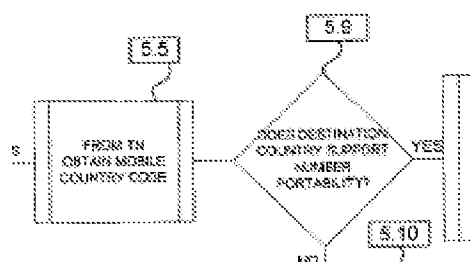
Chava teaches a multimedia message service apparatus (ABSTRACT: "Network System and Method for facilitating message exchange between mobile subscribers belonging to the same or different public land mobile networks, possibly incorporating different standards. Message exchange between two subscribers of the same or different networks may involve one or more lookups on subscription data, zero or more

message transformations, one or more routing decisions including application of costing functions, and, storage and propagation of the message in one or more Core or Intermediary networks. The messages may be of type, among others, SMS (Short Message Service), MMS (Multimedia Message Service), or EMAIL.”) characterized in that it comprises:

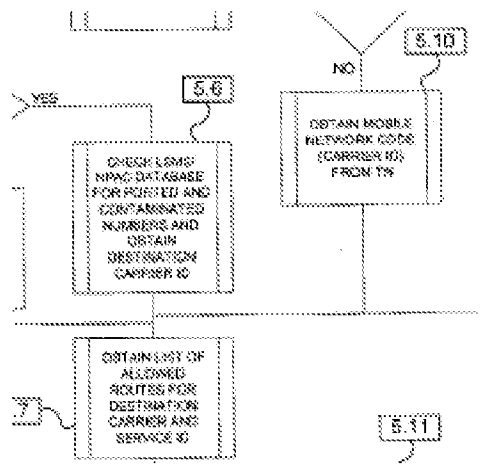
first decision means that, when receiving a multimedia message that has been transmitted, references an international prefix table to decide whether or not the message is to be transmitted internationally to the forwarding destination, based on transmission destination information in said multimedia message (Fig. 5,



second decision means that, if the first decision means decides that the message is to be transmitted to the forwarding destination, (Fig. 5,

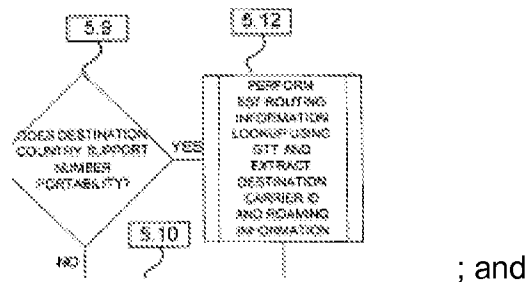


first acquisition means that, if the second decision means decides that the forwarding destination does not support number portability, (Fig. 5,

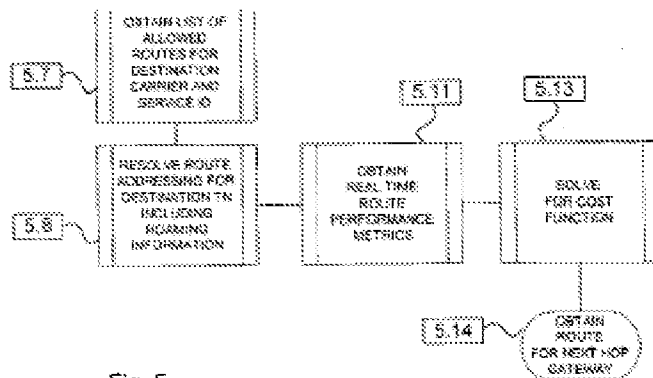


second acquisition means that, if said second decision means decides that the forwarding destination does support number portability, acquires international identification information corresponding to said transmission destination information by inquiring registration means that registers subscriber data and acquires the domain name of the forwarding destination by referencing the second routing table based on the international identification information that has thus been acquired.” (Fig. 5, element 5.12 is the SECOND ROUTING TABLE. Para. [0182] In case of a Multi-media message (MMS), a similar scenario arises. If the MMS message is delivered through MMSC Relay gateway unit of the destination carrier, then the storage of the message while the subscriber is being contacted rests with the destination carrier's MMSC.”, Thus, it

teaches to have a domain name of the forwarding destination.) (Fig. 5,



forwarding means that forwards said multimedia message to the forwarding destination of the domain name that has been acquired by said first acquisition means or said second acquisition meas.



(Fig. 5, Fig. 5

In addition to above please refer to para. [0092]- [0097]).

Chava fails to teach the “references a first routing table based on said transmission destination information to decide whether or not the forwarding destination supports number portability”,

“if number portability is not supported acquires the domain name of the forwarding destination from said transmission destination information by referencing said first routing table”

Eikkula teaches “references a first routing table based on said transmission destination information to decide whether or not the forwarding destination supports number portability”,

“if number portability is not supported acquires the domain name of the forwarding destination from said transmission destination information by referencing said first routing table” (para. [0049] The SRR 7 is arranged to verify whether the call is directed to a ported B-number or to an actual subscriber of network 1 (step 34 in FIG. 3). This can be accomplished e.g. by means of a routing register database including routing information to the new network for the ported subscribers and to the HLR for the non-porting subscribers. More particularly, the arrangement can be such that the numbers can be stored in the database of the routing register, wherein the incoming routing information requests are verified against this database. According to one alternative the ported numbers are mapped in a table included in the routing register, wherein all incoming routing information requests are verified against this table. However, there are also other alternatives for implementing this determination of the status of the B-number.”)

To provide the apparatus of Chava with SRR 7 database as the first routing table) to decide (verify) whether or not the forwarding destination supports number portability would have been obvious to one of ordinary skill in the art, in view of the teachings of Eikkula, since all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (installing the first routing table) with no change in their respective functions, and the

combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have recognized that the SSR 7letting making an enquiry to decide (verify) whether or not the forwarding destination supports number portability, “In other words, the status of the NP services is verified already at the beginning of originating basic call state model before any other IN service is started. This enables a proper control of the interaction between the number portability service and the other IN services.”, as stated by Eikkula in para. [0055].

Referring to claim 2,

Keeping in mind the teachings of Chava, Chava fails to teach the multimedia message service apparatus according to claim 1 characterized in that said first routing table comprises information including the country code and the domain name of each operator specified by the operator code and information as to whether or not number portability is supported and said second decision means decides whether or not the forwarding destination operator supports number portability by searching said first routing table using as keys the country code information and operator code information in said transmission destination information.

Eikkula teaches at para. [0009], “ Thus the routing register functionality has a key role in a telecommunications system providing mobile number portability. The main functionality of the routing register is to provide operators with rerouting capability and an application level functionality for returning the required routing information. The routing register handles both non-call and call related signalling messages. By means

of the routing register the subscriber is able to keep the existing mobile telephone number when porting from one operator to the new one. The rerouting functionality is achieved with the free association of the "phone number routing information" (the subscriber phone number can be, for instance, the MSISDN). The routing information can be a real directory number for a service number, an address of a network element or, for instance, a mobile number portability routing number inquired from an internal database of the routing register."

Additionally Eikkula teaches at para. [0049] The SRR 7 is arranged to verify whether the call is directed to a ported B-number or to an actual subscriber of network 1 (step 34 in FIG. 3). This can be accomplished e.g. by means of a routing register database including routing information to the new network for the ported subscribers and to the HLR for the non-porting subscribers. More particularly, the arrangement can be such that the numbers can be stored in the database of the routing register, wherein the incoming routing information requests are verified against this database. According to one alternative the ported numbers are mapped in a table included in the routing register, wherein all incoming routing information requests are verified against this table. However, there are also other alternatives for implementing this determination of the status of the B-number." (first routing table comprises information including the country code and the domain name of each operator specified by the operator code and information as to whether or not number portability is supported and said second decision means decides whether or not the forwarding destination operator supports

number portability by searching said first routing table using as keys the country code information and operator code information in said transmission destination information.)

To provide the apparatus of Chava with SRR 7 database as the first routing table) to decide (verify) whether or not the forwarding destination supports number portability would have been obvious to one of ordinary skill in the art, in view of the teachings of Eikkula, since all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods (installing the first routing table) with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention, i.e., one skilled in the art would have recognized that the SSR 7 letting making an enquiry to decide (verify) whether or not the forwarding destination supports number portability, "In other words, the status of the NP services is verified already at the beginning of originating basic call state model before any other IN service is started. This enables a proper control of the interaction between the number portability service and the other IN services.", as stated by Eikkula in para. [0055].

Referring to claim 3,

Chava teaches the multimedia message service apparatus according to claim 1 characterized in that said first acquisition means acquires the domain name of the forwarding destination from the country code information and operator code information in said transmission destination information. (para. [0066] Intermediary Network Description [0067] The conceptual diagram in FIG. 1 can be implemented in a number

of ways realizing all the functionality mentioned in this embodiment. By breaking out the functionality of this invention it is possible to describe possible embodiments of network and system realization of this Invention. [0068] The present invention primarily describes the functionality of interconnecting various carrier and service provider networks to the Intermediary network. The Intermediary network can consist of one or more POPs (Point of Presence) for network connectivity and one or more data centers for staging message switching equipment. A practical realization comprises a distributed network with multiple data centers and POPs interconnected by an IP backbone. The service provider networks (carrier networks) are typically connected to one or more of the POPs using Wide Area Network connections such as T1, Frame Relay, and Internet VPN.

[0069] These network connections typically terminate on network end points connected to routers. In addition, a well formed network infrastructure consist of firewalls for security purposes, load balancers, switches for interconnecting network segments and various other ancillary devices such as Intrusion Detection Systems, Network Analyzers etc. Also, Domain Name Servers (DNS) infrastructure for resolving domain names into IP address and vice-versa are also typically realized as part of the network equipment. [0070] Since the invention details the Intermediary network as a distributed message switch, the system preferably comprises of one or more (typically several for scalability and redundancy) message switching systems implementing the transformation and routing modules indicated in FIG. 1. These systems can be implemented using industry standard servers. Further, these message switching

systems are interconnected by a messaging bus to transfer SMT (FIG. 6) and SML (FIG. 6) formatted messages as well as various other management type messages. For SMS messaging, the core switching systems typically consist of Short Message Service Center (SMSC) functionality. For MMS messaging, the core switching systems typically consist of Multi-media Messaging Service Center (MMS) functionality. In addition, email messaging systems are supported by traditional email servers and relays. [0071] Various industry standard protocols are supported by the above mentioned gateways. These include, for SMS: Short Message Peer to Peer protocol (SMPP), EMI/UCP, SMTP, HTTP, CIMD, GSM/ANSI 41 MAP and the like. The switching systems mentioned in the previous paragraph support these protocol units on as needed basis depending upon carrier requirements. Various backend database servers for logging and billing functionality are also typically implemented in an embodiment. [0072] Another important class of systems preferably associated with the present invention is Wireless Number Portability and Routing databases. These systems are realized using database systems with data feeds coming from various sources such as NANP LERG data providers, real time NPAC database feeds and carrier routing table updates. [0163] In the above example, it is possible to attach an SMTP addressable Internet domain name to a telephone number, and thereby preserve the originating Telephone Address in the new address structure. In certain other cases, it may be necessary to change the originating address in order for messaging to work in the destination network. For example, certain mobile terminals (e.g., Skytel's pagers) in the United States have an associated "800" telephone number. In the North American numbering plan, "800"

numbers represent toll free numbers. While these numbers are often routable (using another underlying NANP number) in many North American networks, these numbers do not necessarily work (routable) in overseas networks. Under such circumstances, if a mobile subscriber with an "800" directory number sends a message to an overseas subscriber, and if the overseas subscriber is reachable over an SS7 network, then it may be necessary for the Intermediary network to represent the originating subscriber using a temporary or even a permanent routing number and maintain a table to translate the addresses for 2-way messaging. [0164] The foregoing discussion leads to a novelty in accordance with the present invention where subscribers of telecom carrier networks served by the Intermediary network for bridging messages may be represented by multiple virtual addresses within the Intermediary network in order to facilitate certain types of messaging. These addresses are typically routable in their respective network domains world-wide and translation of these virtual addresses to physical (carrier assigned) addresses takes place within Intermediary network. [0165] An example shown in FIG. 9 clarifies the concept. In FIG. 9, mobile subscriber M1 belongs to carrier C1, mobile subscriber M2 belongs to carrier C2, and mobile subscriber M3 belongs to carrier C3. Further, mobile subscriber M2 is (among others) addressable by SMTP (email) protocol and mobile subscriber M3 is (among others) addressable by SS7 network. The Intermediary Network represented in FIG. 9 would then have virtual addresses for mobile subscriber M1 for both Email delivery as well as SS7 delivery. For Email delivery, the domain is hosted by the Intermediary with Domain Name Servers pointing the SMTP protocol address to the host servers. The originating

phone number, in this case 8005551212 is represented as a virtual email address in Intermediary network as 8005551212@C1MSG.NET. When the addressed party M2 receives a message (Message 4 in FIG. 9) originated by M1, the reply address would show up as the virtual email address enabling M2 to reply to that address. When the email reply is received by the Intermediary, the Intermediary strips the virtual address and sends the message back to the originating subscriber M1 using native Telephone Number addressing.”)

Referring to claim 4,

Chava teaches the multimedia message service apparatus according to claim 1 characterized in that said second routing table comprises domain name information for each of the operators specified by the country code information and operator information and said second acquisition means acquires the forwarding destination domain name by searching said second routing table using as keys information identifying the country and information identifying the operator in said international identification information. (para. [0066] Intermediary Network Description [0067] The conceptual diagram in FIG. 1 can be implemented in a number of ways realizing all the functionality mentioned in this embodiment. By breaking out the functionality of this invention it is possible to describe possible embodiments of network and system realization of this Invention. [0068] The present invention primarily describes the functionality of interconnecting various carrier and service provider networks to the Intermediary network. The Intermediary network can consist of one or more POPs (Point of Presence) for network connectivity and one or more data centers for staging

message switching equipment. A practical realization comprises a distributed network with multiple data centers and POPs interconnected by an IP backbone. The service provider networks (carrier networks) are typically connected to one or more of the POPs using Wide Area Network connections such as T1, Frame Relay, and Internet VPN.

[0069] These network connections typically terminate on network end points connected to routers. In addition, a well formed network infrastructure consist of firewalls for security purposes, load balancers, switches for interconnecting network segments and various other ancillary devices such as Intrusion Detection Systems, Network Analyzers etc. Also, Domain Name Servers (DNS) infrastructure for resolving domain names into IP address and vice-versa are also typically realized as part of the network equipment. [0070] Since the invention details the Intermediary network as a distributed message switch, the system preferably comprises of one or more (typically several for scalability and redundancy) message switching systems implementing the transformation and routing modules indicated in FIG. 1. These systems can be implemented using industry standard servers. Further, these message switching systems are interconnected by a messaging bus to transfer SMT (FIG. 6) and SML (FIG. 6) formatted messages as well as various other management type messages. For SMS messaging, the core switching systems typically consist of Short Message Service Center (SMSC) functionality. For MMS messaging, the core switching systems typically consist of Multi-media Messaging Service Center (MMS) functionality. In addition, email messaging systems are supported by traditional email servers and relays. [0071] Various industry standard protocols are supported by the above mentioned gateways.

These include, for SMS: Short Message Peer to Peer protocol (SMPP), EMI/UCP, SMTP, HTTP, CIMD, GSM/ANSI 41 MAP and the like. The switching systems mentioned in the previous paragraph support these protocol units on as needed basis depending upon carrier requirements. Various backend database servers for logging and billing functionality are also typically implemented in an embodiment. [0072] Another important class of systems preferably associated with the present invention is Wireless Number Portability and Routing databases. These systems are realized using database systems with data feeds coming from various sources such as NANP LERG data providers, real time NPAC database feeds and carrier routing table updates. [0163] In the above example, it is possible to attach an SMTP addressable Internet domain name to a telephone number, and thereby preserve the originating Telephone Address in the new address structure. In certain other cases, it may be necessary to change the originating address in order for messaging to work in the destination network. For example, certain mobile terminals (e.g., Skytel's pagers) in the United States have an associated "800" telephone number. In the North American numbering plan, "800" numbers represent toll free numbers. While these numbers are often routable (using another underlying NANP number) in many North American networks, these numbers do not necessarily work (routable) in overseas networks. Under such circumstances, if a mobile subscriber with an "800" directory number sends a message to an overseas subscriber, and if the overseas subscriber is reachable over an SS7 network, then it may be necessary for the Intermediary network to represent the originating subscriber using a temporary or even a permanent routing number and maintain a table to

translate the addresses for 2-way messaging. [0164] The foregoing discussion leads to a novelty in accordance with the present invention where subscribers of telecom carrier networks served by the Intermediary network for bridging messages may be represented by multiple virtual addresses within the Intermediary network in order to facilitate certain types of messaging. These addresses are typically routable in their respective network domains world-wide and translation of these virtual addresses to physical (carrier assigned) addresses takes place within Intermediary network. [0165] An example shown in FIG. 9 clarifies the concept. In FIG. 9, mobile subscriber M1 belongs to carrier C1, mobile subscriber M2 belongs to carrier C2, and mobile subscriber M3 belongs to carrier C3. Further, mobile subscriber M2 is (among others) addressable by SMTP (email) protocol and mobile subscriber M3 is (among others) addressable by SS7 network. The Intermediary Network represented in FIG. 9 would then have virtual addresses for mobile subscriber M1 for both Email delivery as well as SS7 delivery. For Email delivery, the domain is hosted by the Intermediary with Domain Name Servers pointing the SMTP protocol address to the host servers. The originating phone number, in this case 8005551212 is represented as a virtual email address in Intermediary network as 8005551212@C1MSG.NET. When the addressed party M2 receives a message (Message 4 in FIG. 9) originated by M1, the reply address would show up as the virtual email address enabling M2 to reply to that address. When the email reply is received by the Intermediary, the Intermediary strips the virtual address and sends the message back to the originating subscriber M1 using native Telephone Number addressing.”)

Referring to claim 5 and 6,

Claims 5 and 6 are claims to an apparatus employing the means of claim 1.

Therefore, claims 5 and 6 are rejected for the reasons set forth for claim 1.

Referring to claim 7 and 8,

Claims 7 and 8 are claims to an apparatus employing the means of claim 5.

Therefore, claims 7 and 8 are rejected for the reasons set forth for claim 5.

Referring to claim 9,

Chava teaches the multimedia message service apparatus according to claim 5, wherein the first acquisition apparatus acquires the information identifying the forwarding destination using country code information and operator code information in the transmission destination information. (Fig. 5, element 5.2)

Referring to claim 10,

Chava teaches the multimedia message service apparatus according to claim 5, wherein the second routing table includes domain name information for each operator specified by country code information and operator code information. (Fig. 5, element 5.12 is the SECOND ROUTING TABLE. Para. [0182] In case of a Multi-media message (MMS), a similar scenario arises. If the MMS message is delivered through MMSC Relay gateway unit of the destination carrier, then the storage of the message while the subscriber is being contacted rests with the destination carrier's MMSC.", Thus, it teaches to have a domain name of the forwarding destination.)

Referring to claim 11,

Chava teaches the multimedia message service apparatus according to claim 10, wherein the second acquisition apparatus acquires the information identifying the forwarding destination by searching the second routing table using information identifying the country and information identifying the operator in the international identification information . (Fig. 5, element 5.12 is the SECOND ROUTING TABLE. Para. [0182] In case of a Multi-media message (MMS), a similar scenario arises. If the MMS message is delivered through MMSC Relay gateway unit of the destination carrier, then the storage of the message while the subscriber is being contacted rests with the destination carrier's MMSC.", Thus, it teaches to have a domain name of the forwarding destination.)

Referring to claim 12,

Chava teaches the multimedia message service apparatus according to claim 5, wherein the second acquisition apparatus acquires the international identification information by querying a register that registers subscriber data (Fig. 5, element 5.12 is the SECOND ROUTING TABLE. Para. [0182] In case of a Multi-media message (MMS), a similar scenario arises. If the MMS message is delivered through MMSC Relay gateway unit of the destination carrier, then the storage of the message while the subscriber is being contacted rests with the destination carrier's MMSC.", Thus, it teaches to have a domain name of the forwarding destination.)

Referring to claims 13 and 14,

Claims 13 and 14 are claims to method for serving multimedia messages employing in the apparatus of claims 5 and 6. Therefore, claims 13 and 14 are rejected for the reasons set forth for claims 5 and 6.

Referring to claims 15 and 16,

Claims 15 and 16 are claims to method for serving multimedia messages employing in the apparatus of claims 7 and 8. Therefore, claims 15 and 16 are rejected for the reasons set forth for claims 7 and 8.

Referring to claim 17,

Claim 17 is a claim to method for serving multimedia messages employing in the apparatus of claim 9. Therefore, claim 17 is rejected for the reasons set forth for claim 9..

Referring to claim 18,

Claim 18 is a claim to method for serving multimedia messages employing in the apparatus of claim 10. Therefore, claim 18 is rejected for the reasons set forth for claim 10.

Referring to claim 19,

Claim 19 is a claim to method for serving multimedia messages employing in the apparatus of claim 11. Therefore, claim 19 is rejected for the reasons set forth for claim 11.

Referring to claim 20,

Claim 20 is a claim to method for serving multimedia messages employing in the apparatus of claim 12. Therefore, claim 20 is rejected for the reasons set forth for claim 12.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHOK B. PATEL whose telephone number is (571)272-3972. The examiner can normally be reached on 6:30 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ashok B. Patel/

Primary Examiner, Art Unit 2456